CLAIMS

What is claimed is:

1   1.   A method for publishing a PIN for use in establishing a pairing with

2   a printing device, comprising:

3   the printing device generating the PIN in response to a local PIN request;

4   and

5   the printing device printing the PIN.

1   2.   The method of Claim 1, identifying a local request to print a test

2   page as the local PIN request and wherein printing the PIN comprises printing a

3   test page that includes the PIN.

1   3.   A method for publishing a PIN for use in establishing a pairing with

2   an audio equipped device, comprising:

3   the audio equipped device generating the PIN in response to a local PIN

4   request; and

5   the audio equipped device audibly publishing the PIN.

1   4.   The method of Claim 3, further comprising identifying a local

2   request to publish an audible message as the local PIN request, and wherein

3   publishing the PIN comprises publishing an audible message that includes the

4   PIN.

1   5.   A method for initializing a device pairing, comprising

2   generating a PIN in response to a local PIN request;

3   publishing the PIN;

4   receiving a connection request with PIN data; and

5   generating a link key using the PIN data, the link key used for device

6   pairing.

1   6.   The method of Claim 5, wherein publishing comprises printing the

2   PIN.

1   7.   The method of Claim 5, wherein publishing comprises audibly

2   publishing the PIN.

1   8.   The method of Claim 5, wherein the local PIN request is a local

2   request to print a test page, and wherein publishing comprises printing a test

3   page that includes the PIN.

1   9.   The method of Claim 5, wherein the local PIN request is a local

2   request to publish an audible message, and wherein publishing comprises

3   publishing an audible message that includes the PIN.

1   10.   The method of Claim 5, further comprising determining the validity

2   of the PIN data prior to generating the link key.

1   11.   The method of Claim 10, wherein determining includes determining

2   if the PIN data corresponds to the PIN, determining if the generated PIN has

3   expired, and rejecting the connection request if the PIN data does not

4   correspond to the PIN or if the PIN has expired.

1   12.   The method of Claim 5 further comprising rejecting the connection

2   request if the connection request is for a function not associated with the PIN

3   data.

1   13.   A method for establishing a pairing between a claimant device and

2   a verifying device, comprising:

3   receiving from the claimant device a connection request, the connection

4   request including PIN data;

5   determining whether a link key exists for the verifying device;

6   if a link key exists:

7   rejecting the connection request if the verifying device is not

8   multi-claimant enabled;

1   rejecting the connection request if the verifying device is

2   multi-claimant enabled with restricted access and the claimant

3   device is not approved;

4   otherwise, upon a determination that the PIN data is valid, generating a

5 link key from the PIN data to establish a pairing between the claimant device

6 and the verifying device.

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1   14.   The method of Claim 13, further comprising:

2   generating a PIN in response to a local PIN request made to the verifying

3 device; and

4   instructing the verifying device to publish the PIN.

1   15.   The method of Claim 14, wherein the PIN and the PIN data are of

2 the same format and wherein determining the validity of the PIN data includes

3 determining if the PIN data matches the generated PIN.

1   16.   The method of Claim 14, wherein determining the validity of the

2 PIN data comprises:

3   acquiring a unique identifier for the claimant device;

4   constructing verifying PIN data using the unique identifier and the

5 generated PIN;

6   determining if the PIN data matches the verifying PIN data.

1   17.   A method for establishing a pairing between a claimant device and

2 a printing device, comprising:

3   generating a PIN in response to a local request to print a test page made

4 to the printing device;

5   instructing the printing device to print a test page that includes the PIN;

6   receiving from the claimant device a connection request, the connection

7 request including PIN data;

8   determining whether a valid link key exists exist for the printing device;

9   if a valid link key exists:

1   rejecting the connection request if the printing device is not
2   multi-claimant enabled;
3   rejecting the connection request if the printing device is
4   multi-claimant enabled with restricted access and the claimant
5   device is not approved;
6   otherwise, upon a determination that the PIN data is valid, generating a
7 link key from the PIN data to establish a pairing between the claimant device
8 and the printing device.

1   18.   A computer readable medium having instructions for:
2   generating a PIN in response to a local PIN request;
3   publishing the PIN;
4   receiving a connection request with PIN data; and
5   generating a link key using the PIN data to establish a device pairing.

1   19.   The medium of Claim 18, wherein the instructions for publishing
2 include instructions for printing the PIN.

1   20.   The medium of Claim 18, wherein the instructions for publishing
2 include instructions for audibly publishing the PIN.

1   21.   The medium of Claim 18, wherein the local PIN request is a local
2 request to print a test page, and wherein the instructions for publishing include
3 instructions for printing a test page that includes the PIN.

1   22.   The medium of Claim 18, wherein the local PIN request is a local
2 request to publish an audible message, and wherein the instructions for
3 publishing include instructions for publishing an audible message that includes
4 the PIN.

1   23.   The medium of Claim 18, having further instructions for
2 determining the validity of the PIN data prior to generating the link key.

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1   24.   The medium of Claim 23, wherein the instructions for determining
2   include instructions for determining if the PIN data corresponds to the PIN,
3   determining if the generated PIN has expired, and rejecting the connection
4   request if the PIN data does not correspond to the PIN or if the PIN has expired.

1   25.   The medium of Claim 18, having further instructions for rejecting
2   the connection request if the connection request is for a function not associated
3   with the PIN data.

1   26.   A computer readable medium having instructions for:
2   receiving from a claimant device a connection request, the connection
3   request including PIN data;
4   determining whether a link key exists for a verifying device;
5   if a link key exists:
6   rejecting the connection request if the verifying device is not
7   multi-claimant enabled;
8   rejecting the connection request if the verifying device is
9   multi-claimant enabled with restricted access and the claimant
10   device is not approved;
11   otherwise, upon a determination that the PIN data is valid, generating a
12   link key from the PIN data to establish a pairing between the claimant device
13   and the verifying device.

1   27.   The medium of Claim 26, having further instructions for:
2   generating a PIN in response to a local PIN request made to the verifying
3   device; and
4   instructing the verifying device to publish the PIN.

1   28.   The medium of Claim 27, wherein the PIN and the PIN data are of
2   the same format and wherein the instructions for determining the validity of the
3   PIN data include instructions for determining if the PIN data matches the
4   generated PIN.

1   29.   The medium of Claim 27, wherein the instructions for determining

2   the validity of the PIN data include:

3   acquiring a unique identifier for the claimant device;

4   constructing verifying PIN data using the unique identifier and the

5   generated PIN;

6   determining if the PIN data matches the verifying PIN data.

1   30.   A computer readable medium having instructions for:

2   generating a PIN in response to a local request to print a test page, the

3   request being made to a printing device;

4   instructing the printing device to print a test page that includes the PIN;

5   receiving from a claimant device a connection request, the connection

6   request including PIN data;

7   determining whether a valid link key exists for the printing device;

8   if a valid link key exists:

9   rejecting the connection request if the printing device is not

10   multi-claimant enabled;

11   rejecting the connection request if the printing device is

12   multi-claimant enabled with restricted access, and the claimant

13   device is not approved;

14   otherwise, upon a determination that the PIN data is valid, generating a

15   link key from the PIN data to establish a pairing between the claimant device

16   and the printing device.

1   31.   A system for publishing a PIN for use in establishing a pairing with

2   a printing device, comprising:

3   a pin module operable to generate the PIN in response to a local PIN

4   request; and

5   a publishing module operable to direct a print engine for the printing

6   device to print the PIN.

1   32.   The system of Claim 31, wherein the local PIN request is a local

2   request to print a test page, and wherein the publishing module is operable to

1 identify the request, to direct the PIN module to generate the PIN, and to direct
2 the print engine to print a test page that includes the PIN.

1 33. A system for publishing a PIN for use in establishing a pairing with
2 an audio equipped device, comprising:
3 a pin module operable to generate the PIN in response to a local PIN
4 request; and
5 a publishing module operable to direct the audio equipped device to
6 audibly publish the PIN.

1 34. The system of Claim 33, wherein the local PIN request is a local
2 request to publish an audible message, and the publishing module is operable to
3 identify the request, to direct the PIN module to generate the PIN, and to direct
4 the audio equipped device to publish an audible message that includes the PIN.

1 35. A system for initializing a device pairing, comprising
2 a pin module operable to generate a PIN in response to a local PIN
3 request;
4 a publishing module operable to publish the PIN;
5 a connection module operable to receive a connection request with PIN
6 data; and
7 a key module operable to generate a link key using the PIN data, the link
8 key used for device pairing.

1 36. The system of Claim 35, wherein the publishing module is operable
2 to direct a print engine to print the PIN.

1 37. The system of Claim 35, wherein the publishing module is operable
2 to direct an audio equipped device to audibly publish the PIN.

1 38. The system of Claim 35, wherein the local PIN request is a local
2 request to print a test page, and wherein the publishing module is operable to
3 direct a print engine to print a test page that includes the PIN.

1   39.   The system of Claim 35, wherein the local PIN request is a local

2   request to publish an audible message, and wherein the publishing module is

3   operable to direct an audio equipped device to publish an audible message that

4   includes the PIN.

1   40.   The system of Claim 35, further comprising an authentication

2   module operable to validate the PIN data and to instruct the key module to

3   generate a link key upon a determination that the PIN data is valid.

1   41.   The system of Claim 40, wherein the authentication module is

2   operable to determine if the PIN data corresponds to the PIN, to determine if the

3   generated PIN has expired, and to reject the connection request if the PIN data

4   does not correspond to the PIN or if the PIN has expired.

1   42.   The system of Claim 35 further comprising an authentication

2   module operable to reject the connection request if the connection request is for

3   a function not associated with the PIN data.

4   43.   A system for establishing a pairing between a claimant device and

5   a verifying device, comprising:

6   a connection module operable to receive from the claimant device a

7   connection request, the connection request including PIN data;

8   an authentication module operable:

9   to determine whether a valid link key exists for the verifying

10   device;

11   to reject the connection request if the verifying device is not

12   multi-claimant enabled and a valid link key exists;

13   to reject the connection request if the verifying device is

14   multi-claimant enabled with restricted access and the claimant

15   device is not approved;

1   to determine the validity of the PIN data and reject the

2   connection request upon a determination that the PIN data is not

3   valid; and

4   a key module operable to generate a link key from the PIN data to

5 establish a pairing between the claimant device and the verifying device.

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1   44.   The system of Claim 43, further comprising:

2   a PIN module operable to generate a PIN in response to a local PIN

3 request made to the verifying device; and

4   a publishing module operable to instructing the verifying device to publish

5 the PIN.

1   45.   The system of Claim 44, wherein the PIN and the PIN data are of

2 the same format and wherein the authentication module is operable to determine

3 the validity of the PIN data by determining if the PIN data matches the generated

4 PIN.

1   46.   The system of Claim 44, wherein the authentication module is

2 operable to validate the PIN data by:

3   acquiring a unique identifier for the claimant device;

4   constructing verifying PIN data using the unique identifier and the

5 generated PIN;

6   determining if the PIN data matches the verifying PIN data.

1   47.   A system for establishing a pairing between a claimant device and

2 a printing device, comprising:

3   a PIN module operable to generate a PIN in response to a local request to

4 print a test page made to the printing device;

5   a publishing module operable to instruct the printing device to print a test

6 page that includes the PIN;

7   a connection module operable to receive from the claimant device a

8 connection request, the connection request including PIN data;

1   an authentication module operable:

2   to determine whether a link key exists for the verifying

3   device and if a link key exists;

4   to reject the connection request if the verifying device is not

5   multi-claimant enabled;

6   to reject the connection request if the verifying device is

7   multi-claimant enabled with restricted access and the claimant

8   device is not approved;

9   to determine the validity of the PIN data and reject the

10   connection request if the PIN data is not determined to be valid;

11   and

12   a key module operable to generate a link key from the PIN data to

13 establish a pairing between the claimant device and the verifying device.

1   48.   A system for publishing a PIN for use in establishing a pairing with

2 a printing device, comprising:

3   a means for identifying a local PIN request;

4   a means for generating the PIN in response to the local PIN request; and

5   a means for directing a print engine for the printing device to print the

6 PIN.

1   49.   The system of Claim 48, wherein the means for identifying is a

2 means for identifying a local request to print a test page, and wherein the means

3 for directing is a means for directing the print engine to print a test page that

4 includes the PIN.